

Claims

1. Use of HCVp7, a variant, functionally effective fragment or a mutation thereof in screening candidate compounds that inhibit or increase ion channel activity.
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2. Use according to claim 1 wherein HCVp7 is coupled to a poly(amino acid) sequence.
- 10 3. Use according to claim 2 wherein the poly(amino acid) sequence linker comprises a basic natural amino acid selected from the group comprising ARG, LYS or HIS.
- 4 Use according to either claim 2 or claim 3 wherein the poly(amino acid)
15 sequence is a polyHIS sequence.
5. Use according to claim 4 wherein the polyHIS sequence comprises at least 2 and up to 50 residues.
- 20 6. Use according to claim 5 wherein the polyHIS sequence comprises at least 2 and up to 10 residues
7. Use according to any preceding claim wherein HCVp7 is incorporated into or comprised in a membrane.
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8. Use according to claim 7 wherein the membrane is a black lipid membrane.
9. Use according to any one of claims 1 to 6 wherein a nucleic acid encoding the HCVp7 protein, variant, functionally effective fragment or a mutation thereof is
30 incorporated into or comprised in a viral system.

10. A method of screening for compounds that inhibit or enhance ion channel activity comprising the steps of:
- (i) contacting a membrane comprising a HCVp7 protein or a viral system including a nucleic acid encoding an HCVp7 protein with a candidate compound; and
 - (ii) measuring ion channel activity across said membrane or in viral system.
11. A method of screening a compound for efficacy of inhibition or enhanced ion channel activity comprising the steps of:
- (i) contacting a membrane comprising a HCVp7 protein or a viral system including a nucleic acid encoding an HCVp7 protein with a candidate compound; and
 - (ii) comparing the activity of said candidate compound with a standard.
12. A method according to either claim 10 or 11 further including any one or more of the features of claims 2 to 9.
13. Use of HCVp7 in the assessment of ion channel formation by p7 variants and/or mutants thereof.
14. Use according to claim 13 further including any one or more of the features of claims 2 to 9.
15. A compound identified according to the method of any one of claims 10 to 12.
16. An antiviral therapeutic agent as identified by the method any one of claims 10 to 12.

17. Use of a therapeutic agent identified by the method any one of claims 10 to 12 in the preparation of a medicament for the treatment of a viral infection.
18. Use of a therapeutic agent identified by the method any one of claims 10 to 12 in the preparation of a medicament for the treatment of hepatitis.
19. Use of a therapeutic agent identified by the method of any one of claims 10 to 12 in the preparation of a medicament for the treatment of hepatitis C virus (HCV) infection.
20. Use of an antibody directed against HCVp7 as an inhibitor of channel ion activity, pharmaceutical preparations thereof and use therefor in the manufacture of a medicament for the treatment of hepatitis C virus (HCV) infection.
21. A membrane incorporating HCVp7, a variant, functionally effective fragment or a mutation thereof that retains ion channel forming capability.
22. A membrane according to claim 21 further including any one or more of the features recited in claims 2 to 9.
23. Use of a membrane according to either claim 21 or 22 in screening candidate compounds that inhibit or increase ion channel activity.
24. Use of a membrane according to any one of claims 21 to 23 in the method of any one of claims 10 to 12.